

A SYSTEM AND METHOD OF PILOT TONE REUSE  
IN A FEEDFORWARD AMPLIFIER ABSTRACT OF THE DISCLOSURE

A system and method of pilot tone reuse. The present invention  
5 therefore provides a feedforward amplifier, comprising: an input  
that accepts a radio frequency signal having multiple carriers; a  
first control loop including a main amplifier block and a detector,  
wherein the first control loop generates a first carrier cancelled  
signal; a second control loop including a pilot generator, I/Q  
10 demodulator, vector modulator and first error amplifier block,  
wherein the pilot generator, I/Q demodulator and first error  
amplifier block amplify the first carrier cancelled signal and  
generates a pilot signal; a third control loop comprising a vector  
modulator and a second carrier cancellation detector; and a fourth  
15 control loop comprising of vector modulator, a second error  
amplifier block, and a pilot signal receiver for receiving the pilot  
signal generated by the pilot generator in the second error  
amplifier block such that the pilot signal is reused by the fourth  
control loop to thereby further cancel intermodulation distortion  
20 in the output of the main amplifier block.